OPERATIONS AND SUPPORT DISCRETE EVENT SIMULATION SYSTEM AND METHOD

5   <u>ABSTRACT OF THE INVENTION</u>

A discrete event simulation (DES) and method of model development provide affordable, accurate, pre-validated, reusable and portable models and simulations that capture the complexity, interdependencies and stochastic nature of the operations and support (O&S) of weapons systems. A model of the O&S problem is created based on a

10   service use profile (SUP) that describes a logical structure of delivery, maintenance, deployment, testing policy, infrastructure and logistics constraints. That model is translated into a DES, preferably using a "toolkit" including common attributes for the weapons and pre-validated common blocks and sub-models that define higher level functionality. The DES calculates a time-based prediction of weapons availability,

15   maintenance activities, and spare parts stock over a life cycle of the weapons system.